WHAT IS CLAIMED IS:

1.   A wireless LAN system comprising:

a plurality of wireless stations; and

a switching apparatus for switching a frequency channel used between stations communicated with each other,

said switching apparatus including means for selecting a frequency channel to be used, and means for sending a switching request packet for specifying said selected frequency channel to said stations,

each of said stations including means for switching a current frequency channel to the frequency channel specified by the switching request packet received.

2.   A system as claimed in claim 1, wherein said switching apparatus further comprises a manager for collecting a line status information indicating varying status of lines between said stations, and means for judging whether a frequency channel switching is executed based on said line status information, wherein each of said station further comprises an agent for sending said line status information to said manager in said switching apparatus, and wherein said selecting means in said switching apparatus selects said frequency channel based on a judgment of said judging means.

3.   A system as claimed in claim 2, wherein said line status information includes information of the total number of packets and the number of error packets.

4.   A system as claimed in claim 3, wherein said manager
in said switching apparatus communicates with said agent in
said station based on Simple Network Management Protocol.

5.   A system as claimed in claim 1, wherein said selecting
means in said switching apparatus selects a frequency
channel so that a polarized wave of said frequency channel
to be selected does not overlap polarized waves of neighbor
frequency channels.

6.   A system as claimed in claim 1, wherein said station
further comprises a switching control means for controlling
a switching of frequency channels, wherein said switching
control means sends and receives a switching confirmation
packet between said stations in each of which the frequency
channel is switched in response to said switching request
packet received from said switching apparatus, wherein when
said switching confirmation packet does not be received from
other station, said switching control means resets the
frequency channel to a previous frequency channel earlier
than receiving said switching request packet, and wherein
said switching control means sends a response packet
indicating of whether said switching confirmation packet has
been received to said switching apparatus as a switching
result.

7.   A system as claimed in claim 6, wherein said switching
control means in said switching apparatus sends a switching
request packet to all of said stations so that said station

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is reset to the previous frequency channel earlier than receiving a switching request packet, when at least one of said switching results received from said stations is unsuccessful.

8.   A system as claimed in claim 1, wherein said stations consist of one parent-station and child-stations, wherein said agent in each of said parent-station and said child-stations counts a percentage value the number of success packets occupied in the total number of packets for each wireless link between said parent-station and each child-station, and sends a percentage value for each wireless link to said switching apparatus, wherein said manager in said switching apparatus receives said percentage value, and wherein said switching judgment means judges whether said switching of frequency channel is executed, based on the number of the wireless links that have percentage values smaller than a threshold.

9.   A system as claimed in claim 8, wherein said switching judgment means in said switching apparatus dynamically modifies said threshold based on the number of switching times per unit time.

10.   A method for switching a frequency channel communicated between stations for wireless LAN by a switching apparatus, said method comprises steps of:

in said switching apparatus, selecting a frequency channel to be used;

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in said switching apparatus, sending a switching request packet for specifying said selected frequency channel to said station; and

in said station, switching a current frequency channel to the frequency channel specified by the switching request packet received.

11.   A method as claimed in claim 10, wherein said method further comprises steps of:

in said switching apparatus, collecting a line status information indicating varying status of lines between said stations, and judging whether a frequency channel switching is executed based on said line status information;

in said station, sending said line status information to said switching apparatus; and

said selecting step in said switching apparatus selects said frequency channel based on a judgment of said judging step.

12.   A method as claimed in claim 11, wherein said line status information includes information of the total number of packets and the number of error packets.

13.   A method as claimed in claim 12, wherein said switching apparatus communicates with said station based on Simple Network Management Protocol.

14.   A method as claimed in claim 10, wherein said selecting step in said switching apparatus selects a

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frequency channel so that a polarized wave of said frequency
channel to be selected does not overlap a polarized wave of
other neighbor frequency channels.

15.   A method as claimed in claim 10, wherein said method
further comprises, in said station, a switching control step
for controlling a switching of frequency channels, wherein
said switching control step sends and receives a switching
confirmation packet between said stations in each of which
the frequency channel is switched in response to said
switching request packet received from said switching
apparatus, wherein when said switching confirmation packet
does not be received from other station, said switching
control step resets the frequency channel to a previous
frequency channel earlier than receiving said switching
request packet, and wherein said switching control step
sends a response packet indicating of whether said switching
confirmation packet has been received to said switching
apparatus as a switching result.

16.   A method as claimed in claim 15, wherein said
switching control step in said switching apparatus sends a
switching request packet to all of said stations so that
said station is reset to the previous frequency channel
earlier than receiving said switching request packet again,
when at least one of said switching results received from
said stations is unsuccessful.

17.   A method as claimed in claim 10, wherein said stations

consist of one parent-station and a plurality of child-stations, wherein said parent-station and said child-stations count a percentage value per unit time of the number of success packets occupied in the total number of packets for each wireless link between said parent-station and each said child-station, wherein said line status information sending step sends a percentage value for each wireless link to said switching apparatus, wherein said switching apparatus comprises steps of receiving said percentage value, and wherein said switching judgment step judges whether said switching of frequency channel is executed, based on the number of the wireless links that said percentage value is smaller than a threshold.

18.   A method as claimed in claim 17, wherein said switching judgment step in said switching apparatus dynamically modifies said threshold based on the number of switching times per unit time.